REMARKS

Summary of Claim Status

Claims 1-3 and 6-12 are pending in the present application after entry of the present amendment. Applicants have canceled Claims 4 and 5, thereby rendering the rejection of these claims moot. Claims 1-3 and 6-12 are rejected for the reasons discussed below. Applicants respectfully request favorable reconsideration of the claims and withdrawal of the pending rejections in view of the present amendment and in light of the following discussion.

Declarations under 37 C.F.R. § 1.131

Applicants submitted declarations under 37 C.F.R. § 1.131 with the response filed on August 23, 2004. The Examiner stated that the declarations have been considered but are ineffective to overcome the Kean reference. Applicants continue to respectfully disagree with the Examiner. In particular, Applicants believe the declarations by the inventors of the present invention, and the documentary evidence submitted with the declarations is sufficient to establish conception of the invention prior to the effective date of the Kean reference. Furthermore, Applicants believe the facts cited in the declarations are sufficient to establish due diligence.

Notwithstanding the foregoing, Applicants believe the Examiner's arguments are now moot in light of the amendments and remarks made herein, which Applicants believe overcome the Examiner's rejections based on the Kean reference.

Specification

The disclosure is objected to because of informalities. The Examiner stated that the citation on page 35, line 28 is incomplete. Applicants respectfully disagree and submit that the reference is complete. In particular, the reference is to "Schneier, ibid, at pages 200-203." On page 4, lines 17-19 of the specification, Applicants make reference to and provide full citation information for "Bruce

Schneier in 'Applied Cryptography Second Edition: protocols, algorithms, and source code in C' copyright 1996 by Bruce Schneier, published by John Wiley & Sons, Inc." Thus, the reference on page 35, line 28 refers back to this reference, and is complete. Therefore, Applicants believe no correction is necessary since the reference is complete.

Rejections Under 35 U.S.C. § 102

Claims 1-9 and 11-12 are rejected under 35 U.S.C. § 102(e) as being anticipated by Kean, U.S. Patent Publication No. US 2001/0015919 ("Kean"). Applicants thank the Examiner for an explicit and clear description of how Kean is being read. However, Applicants respectfully traverse this rejection.

Applicants have canceled Claim 4 and amended Claim 1 to recite: "the at least one key is stored in volatile memory that may be powered by a battery," and Applicants respectfully submit that Kean does not teach or even suggest such features. With respect to canceled claim 4, the Examiner stated that "Kean discloses the method wherein the key in the FPGA is stored in volatile memory that may be powered by a battery (page 1, paragraph 0005, 0007)." However, paragraphs 0005 and 0007 do not teach that a key used for encryption is stored in volatile memory that may be powered by a battery. Paragraph 0005 of Kean merely states that SRAM programmed FPGAs lose all information when powered off, and thus require a configuration bitstream immediately after power is applied from a serial EPROM. There is no mention of any key or a battery.

Likewise, paragraph 0007 merely describes the use of a battery back up system to keep "the FPGA powered on in order to preserve its configuration memory contents even when the system containing the FPGA is powered off." Kean teaches that such a battery back up may be used as a security feature by loading the configuration bitstream before it is shipped to an end user, thereby "preventing unauthorized access to the bitstream information." The battery back up described in Kean secures the configuration data, and thus eliminates the need for any encryption key, since the primary goal of encryption is to secure the bitstream while it is being transferred to the FPGA. Thus, Kean in fact teaches

away from a key stored in volatile memory that may be powered by a battery, as the battery system described at paragraph 0007 is used in a system for securing a bitstream without using an encryption key. An encryption key in such a system would serve no useful purpose since there is no data to encrypt.

In contrast, Claim 1 recites a key is stored in volatile memory that may be powered by a battery. Kean does not teach or disclose at least such a feature. Therefore, Applicants believe Claim 1 is allowable over Kean.

Applicants have further amended Claim 1 to recite "the at least one key includes key order data indicating whether the at least one key is a first or only key." Applicants submit that Kean does not teach or even suggest any such key order data. Nowhere in Kean is any indication of key order even mentioned, much less disclosed or taught. Therefore, Applicants believe the amendments to Claim 1 further distinguish over Kean.

For at least the foregoing reasons, Applicants believe Claim 1 is allowable over Kean, and allowance of Claim 1 is respectfully requested.

Claims 2, 3, 6, 8, and 9 depend from Claim 1, and thus include all of the limitations of Claim 1. Applicants believe Claim 1 is allowable based on the amendment and remarks set forth above. Therefore, for at least the same reasons, Applicants believe Claims 2, 3, 6, 8, and 9 are also allowable, and respectfully request allowance of Claims 2, 3, 6, 8, and 9.

Applicants have made amendments in Claims 7, 11, and 12, respectively, that are similar to the amendments made in Claim 1. In particular, amended Claim 7 recites that the encrypting comprises encrypting the bits representing configuration of the FPGA using at least one key stored in volatile memory of the FPGA that may be powered by a battery, and the at least one key includes key order data indicating whether the at least one key is a first or only key; amended Claim 11 recites that the at least one key is stored in volatile memory that may be powered by a battery, and the at least one key includes key order data indicating whether the at least one key is a first or only key; and amended Claim 12 recites that at least one key stored in volatile memory of the FPGA that may be powered

by a battery is used by the means for encrypting, and the at least one key includes key order data indicating whether the at least one key is a first or only key.

As set forth above, Applicants submit Kean does not teach or even suggest such features. That is, Kean does not teach or disclose a key stored in volatile memory that may be powered by a battery, and Kean does not teach or disclose key order data indicating whether a key is a first or only key. Therefore, for at least these reasons, Applicants believe Claims 7, 11, and 12 are also allowable, and respectfully request allowance of Claims 7, 11, and 12.

All of the above amendments are fully supported by the specification as filed, for example Figures 9 and 10 and the corresponding text.

Rejections Under 35 U.S.C. § 103

Claim 10 rejected under 35 U.S.C. § 103(a) as being unpatentable over Kean in view of Kittirutsunetorn, U.S. Patent No. 5,081,675 ("Kittirutsunetorn"). Claim 10 depends from independent Claim 1, and thus includes all of the limitations of Claim 1. For the reasons set forth above, Applicants believe Claim 1 is allowable. Kittirutsunetorn does not overcome the deficiencies of Kean. Therefore, for at least the same reasons, Applicants believe Claim 10 is allowable, and allowance of Claim 10 is respectfully requested.

Conclusion

Applicants acknowledge an unusually thorough and helpful analysis of all pending claims by the Examiner.

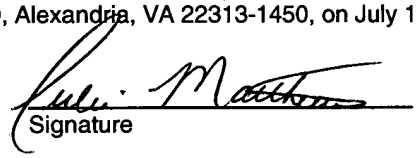
No new matter has been introduced by any of the above amendments. In light of the above amendments and remarks, Applicants believe that Claims 1-3 and 6-12 are in condition for allowance, and allowance of the application is therefore requested. If action other than allowance is contemplated by the Examiner, the Examiner is respectfully requested to telephone Applicants' attorney, Justin Liu, at 408-879-4641.

Respectfully submitted,

Justin Liu
Attorney for Applicants
Reg. No. 51,959

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on July 14, 2005.

Julie Matthews
Name



Signature